



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,717	09/17/2001	Kenneth Noddings	P051	7607
25784	7590	09/28/2005	EXAMINER	
MICHAEL O. SCHEINBERG P.O. BOX 164140 AUSTIN, TX 78716-4140			CHAN, SING P	
			ART UNIT	PAPER NUMBER
			1734	
DATE MAILED: 09/28/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/954,717

Applicant(s)

NODDINGS ET AL.

Examiner

Sing P. Chan

Art Unit

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-13,19-23,38 and 45-60 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-13,19-23,38 and 45-60 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 4 and 20 are objected to because of the following informalities: In claim 4, line 2, "a mold" should be "the mold" and in claim 20, line 1, transitional phrase is missing, i.e. "comprising." Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, recites, "at least one of the first or second component is" a "passive optical component." However, claim 1 recites, "at least one of the first or second components is" an "active optical component," therefore, only one or less can be a passive component and not one or more.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Eide et al (U.S. 5,031,984).

Eide et al discloses a method of splicing optical fibers. The method includes providing a silicone elastomeric mold having a surface with precision grooves are formed, placing the fibers into the grooves on the mold (Col 4, lines 14-20), providing a glass substrate with an ultraviolet curable adhesive on a surface over the mold and sandwiching the optical fibers in place (Col 4, lines 20-22), wherein the adhesive has index matching the characteristics matching those of the optical fibers (Col 3, lines 61-66), curing the adhesive with ultraviolet light (Col 4, lines 29-31), and a sealant material is used to seal the fiber (Col 4, lines 58-60)

6. Claims 20-23, 38, 45-51, and 56-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Malavieille (U.S. 4,662,962).

Regarding claims 20-23, 38, 45-50 and 56-60, Malavieille discloses a method of connecting optical fibers. The method includes providing a soft support with at least one fiber-receiving groove (Col 3, lines 46-51), providing a plate and a transparent setable liquid material with a refractive index matching the fibers, and placing the liquid into the groove (Col 4, lines 31-34), placing the ends of the optical fibers into the liquid medium, which has the same refractive index to allow for transmission of light between the two fibers by attenuating index jumps in the separation diopter, i.e. forming an optical path between the fibers (Col 4, lines 39-44), which is a waveguide, with the facing ends at an angle of 0 degree (Figure 4), radiating the adhesive with ultraviolet radiation to cure the adhesive or waveguide (Col 4, lines 63-68), burying the splice in resin, which is sticky, to protect the splice as a whole and then the splice is covered with various forms of plastic or metal protective cap or sleeve (Col 5, line 67 to Col 6, line 3),

which will mold the resin to the shape of the cap or sleeve and adhere to the waveguide.

Regarding claim 51, the cured adhesive material is a waveguide.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eide et al (U.S. 5,031,984) in view of Malavieille (U.S. 4,662,962).

Eide et al discloses a method of splicing optical fibers. The method includes providing a silicone elastomeric mold having a surface with precision grooves are formed, placing the fibers into the grooves on the mold (Col 4, lines 14-20), which will coupler for a light source such as a laser and a light detector (Col 4, lines 35-42), providing a glass substrate with an ultraviolet curable adhesive on a surface over the mold and sandwiching the optical fibers in place (Col 4, lines 20-22), wherein the adhesive has index matching the characteristics matching those of the optical fibers (Col 3, lines 61-66), curing the adhesive with ultraviolet light (Col 4, lines 29-31), and a sealant material is used to seal the fiber (Col 4, lines 58-60). Eide et al is silent as to the adhesive is the waveguide. However, providing the adhesive as the waveguide is well known and conventional as shown for example by Malavieille. Malavieille discloses a method of connecting optical fibers. The method includes providing a soft support with

Art Unit: 1734

at least one fiber-receiving groove (Col 3, lines 46-51), providing a plate and a transparent setable liquid material with a refractive index matching the fibers, and placing the liquid into the groove (Col 4, lines 31-34), placing the ends of the optical fibers into the liquid medium, which has the same refractive index to allow for transmission of light between the two fibers by attenuating index jumps in the separation diopter, i.e. forming an optical path between the fibers (Col 4, lines 39-44), which is a waveguide.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the adhesive with matching index to allow the adhesive to function as a waveguide as disclosed by Malavieille in the method of Eide et al to provide a method of splicing optical fiber, which are cheap and easy to use. (See Malavieille, Col 1, lines 16-18)

9. Claims 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eide et al (U.S. 5,031,984) in view of Malavieille (U.S. 4,662,962) as applied to claim 1 above, and further in view of Daniel (U.S. 4,466,697).

Eide et al as modified by Malavieille discloses providing a plate and burying the splice in resin, which is sticky, to protect the splice as a whole and then the splice is covered with various forms of plastic or metal protective cap or sleeve (See Malavieille, Col 5, line 67 to Col 6, line 3), which will mold the resin to the shape of the cap or sleeve and adhere to the waveguide. But is silent as to applying a third or additional formable material to form an enclosure or other protecting structure. However, providing additional formable material to form an enclosure or protecting structure is well known

Art Unit: 1734

and conventional as shown for example by Daniel. Daniel discloses a method for optical fiber. The method includes providing a protective coating to the fiber, wherein the coating may be several layers thick and may be formed of different transparent substances. (Col 7, lines 28-38)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide any additional formable material as protective coating as disclosed by Daniel in the method of Eide et al as modified by Malavieille to provide additional protective outer coating for the fiber. (See Daniel, Col 2, lines 34-37)

10. Claims 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eide et al (U.S. 5,031,984) in view of Malavieille (U.S. 4,662,962) as applied to claim 1 above, and further in view of Lebby et al (U.S. 5,389,312).

Eide et al as modified above is silent as to positioning the active optical component such as laser using bumps. However, using bumps to position components is well known and conventional as shown for example by Lebby et al. Lebby et al discloses a method of forming molded optical waveguides. The method includes using electrical contacts to position photonics devices such as photo detectors and light generating device fixed with bump bonding. (Col 5, lines 39-45)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use electrical contacts, which are bumps as disclosed by Lebby et al in the method of Eide et al as modified by Malavieille to automatically align the components. (See Lebby et al, Col 5, lines 43-45)

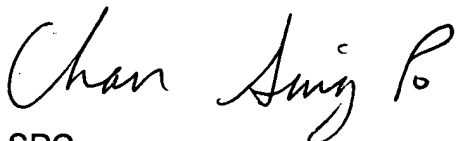
Response to Arguments


11. Applicant's arguments with respect to claims 1, 2, 4-13, 19-23, 38, and 45-60 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sing P. Chan whose telephone number is 571-272-1225. The examiner can normally be reached on Monday-Thursday 7:30AM-11:00AM and 12:00PM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher A. Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SPC


CHRIS FIORILLA
SUPERVISORY PATENT EXAMINER
Au 1734